

APPENDIX-D: SUMMARY OF HRU AREA, RUNOFF, AND
TOTAL NITROGEN LOADS

Table D-1. Distribution of area by HRU and zoning district (acres). Darker shades represent higher values within each column

HRU Categories	Area Distribution by Zoning District (acres)										All Zoning
	B1	B2	R10	R20	R25	R50	R3A	LHP	W/C	NZ	
Agriculture Pervious-A-Low	0.00	0.00	0.78	0.00	0.26	6.98	27.31	0.00	0.00	0.04	35.4
Agriculture Pervious-A-Med	0.00	0.00	0.26	0.00	0.48	15.44	42.44	0.00	0.00	0.04	58.7
Agriculture Pervious-A-High	0.00	0.00	0.02	0.00	0.05	3.73	11.14	0.00	0.00	0.01	14.9
Agriculture Pervious-B-Low	0.00	0.00	0.00	0.00	0.00	0.00	21.51	0.00	0.00	0.01	21.5
Agriculture Pervious-B-Med	0.00	0.00	0.00	0.00	0.00	0.02	6.94	0.00	0.00	0.03	7.0
Agriculture Pervious-B-High	0.00	0.00	0.00	0.00	0.00	0.02	0.96	0.00	0.00	0.01	1.0
Agriculture Impervious	0.00	0.00	0.00	0.00	0.11	1.96	6.46	0.00	0.00	0.01	8.6
Forest Pervious-A-Low	0.08	5.83	30.47	27.39	67.47	204.02	196.77	0.00	0.04	0.20	532.3
Forest Pervious-A-Med	0.20	15.06	74.27	59.44	75.41	409.03	399.89	0.00	0.13	0.26	1,033.7
Forest Pervious-A-High	0.17	10.60	40.56	46.77	10.23	158.61	171.07	0.00	0.24	0.23	438.5
Forest Pervious-B-Low	0.02	0.81	0.75	0.05	0.00	11.40	130.10	0.00	0.02	0.17	143.3
Forest Pervious-B-Med	0.02	1.47	1.14	0.09	0.00	9.53	81.76	0.00	0.02	0.08	94.1
Forest Pervious-B-High	0.00	0.13	0.41	0.15	0.00	2.24	18.16	0.00	0.01	0.06	21.2
Forest Impervious	0.06	2.14	10.12	12.04	7.38	54.60	42.86	0.00	0.29	0.01	129.5
Developed Pervious-A-Low	0.62	12.07	110.62	33.67	52.03	92.17	28.66	0.00	0.14	0.03	330.0
Developed Pervious-A-Med	1.46	14.20	166.49	61.59	62.20	119.98	47.85	0.00	0.44	0.06	474.3
Developed Pervious-A-High	0.95	12.66	55.95	33.03	16.95	39.26	22.21	0.00	0.34	0.04	181.4
Developed Pervious-B-Low	0.00	0.07	0.17	0.00	0.00	1.49	17.16	0.00	0.00	0.00	18.9
Developed Pervious-B-Med	0.00	0.06	0.06	0.00	0.00	1.11	13.89	0.00	0.00	0.00	15.1
Developed Pervious-B-High	0.00	0.06	0.01	0.00	0.00	0.12	2.56	0.00	0.00	0.00	2.8
Developed Pervious-C-Low	1.19	0.00	4.59	0.00	0.17	0.00	0.00	0.60	5.93	0.00	12.5
Developed Pervious-C-Med	0.90	0.00	0.38	0.00	0.21	0.00	0.00	0.77	3.08	0.00	5.3
Developed Pervious-C-High	0.30	0.00	0.08	0.00	0.04	0.00	0.00	0.42	0.77	0.00	1.6
Developed Pervious-D-Low	0.00	0.00	2.05	0.43	1.60	21.63	10.37	0.58	0.62	0.61	37.9
Developed Pervious-D-Med	0.00	0.00	1.67	0.57	6.50	9.24	4.19	0.64	0.42	0.33	23.5
Developed Pervious-D-High	0.00	0.00	0.35	0.39	3.45	2.58	0.89	0.36	0.26	0.11	8.4
Open Space	0.04	1.04	11.24	5.07	3.52	9.56	5.82	1.14	7.61	0.00	45.0
Commercial	11.74	33.63	8.01	2.85	1.82	1.11	0.55	0.00	15.31	0.00	75.0
Industrial	0.00	14.61	0.53	4.91	0.00	0.00	0.00	0.00	0.00	0.00	20.0
Low Density Residential	0.00	0.26	22.66	37.75	9.96	47.77	19.26	0.00	0.31	0.04	138.0
Medium Density Residential	0.63	0.84	107.36	1.32	23.75	2.83	0.00	0.00	0.65	0.00	137.4
High Density Residential	0.16	0.45	1.92	2.88	0.65	5.71	0.00	0.00	0.76	0.00	12.5
Highway	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	2.36	0.00	2.4
Total	18.5	126.0	652.9	330.4	344.3	1,232.1	1,330.8	4.5	39.8	2.4	4,081.7

Table D-2. Distribution of annual average runoff volume by HRU and zoning district (acre-feet/year). Darker shades represent higher values within each column.

HRU Categories	Annual Average Runoff Volume by Zoning District (acre-feet/year)										All Zoning
	B1	B2	R10	R20	R25	R50	R3A	LHP	W/C	NZ	
Agriculture Pervious-A-Low	0.0	0.0	0.6	0.0	0.2	5.0	19.6	0.0	0.0	0.0	25.4
Agriculture Pervious-A-Med	0.0	0.0	0.2	0.0	0.4	13.9	38.3	0.0	0.0	0.0	52.9
Agriculture Pervious-A-High	0.0	0.0	0.0	0.0	0.0	3.6	10.8	0.0	0.0	0.0	14.5
Agriculture Pervious-B-Low	0.0	0.0	0.0	0.0	0.0	0.0	49.4	0.0	0.0	0.0	49.4
Agriculture Pervious-B-Med	0.0	0.0	0.0	0.0	0.0	0.1	18.8	0.0	0.0	0.1	18.9
Agriculture Pervious-B-High	0.0	0.0	0.0	0.0	0.0	0.1	2.7	0.0	0.0	0.0	2.8
Agriculture Impervious	0.0	0.0	0.0	0.0	4.3	73.7	242.6	0.0	0.0	0.3	320.9
Forest Pervious-A-Low	0.1	4.2	21.9	19.7	48.4	146.4	141.2	0.0	0.0	0.1	381.9
Forest Pervious-A-Med	0.2	13.6	67.0	53.6	68.0	368.9	360.7	0.0	0.1	0.2	932.4
Forest Pervious-A-High	0.2	10.3	39.3	45.3	9.9	153.6	165.6	0.0	0.2	0.2	424.6
Forest Pervious-B-Low	0.0	1.9	1.7	0.1	0.0	26.2	298.9	0.0	0.0	0.4	329.2
Forest Pervious-B-Med	0.0	4.0	3.1	0.2	0.0	25.7	220.8	0.0	0.1	0.2	254.2
Forest Pervious-B-High	0.0	0.4	1.2	0.4	0.0	6.4	51.5	0.0	0.0	0.2	60.0
Forest Impervious	2.2	80.2	379.9	452.0	277.1	2,049.1	1,608.5	0.0	11.0	0.3	4,860.2
Developed Pervious-A-Low	0.2	3.7	34.2	10.4	16.1	28.5	8.9	0.0	0.0	0.0	102.1
Developed Pervious-A-Med	0.6	5.7	66.9	24.7	25.0	48.2	19.2	0.0	0.2	0.0	190.6
Developed Pervious-A-High	0.4	5.6	24.8	14.6	7.5	17.4	9.8	0.0	0.1	0.0	80.4
Developed Pervious-B-Low	0.0	0.2	0.4	0.0	0.0	3.4	39.4	0.0	0.0	0.0	43.4
Developed Pervious-B-Med	0.0	0.2	0.2	0.0	0.0	3.0	37.5	0.0	0.0	0.0	40.9
Developed Pervious-B-High	0.0	0.2	0.0	0.0	0.0	0.3	7.3	0.0	0.0	0.0	7.8
Developed Pervious-C-Low	6.4	0.0	24.8	0.0	0.9	0.0	0.0	3.3	32.1	0.0	67.6
Developed Pervious-C-Med	5.5	0.0	2.3	0.0	1.3	0.0	0.0	4.7	18.8	0.0	32.6
Developed Pervious-C-High	1.9	0.0	0.5	0.0	0.3	0.0	0.0	2.7	4.9	0.0	10.3
Developed Pervious-D-Low	0.0	0.0	21.0	4.4	16.4	221.6	106.3	6.0	6.3	6.2	388.2
Developed Pervious-D-Med	0.0	0.0	18.6	6.3	72.4	103.0	46.7	7.1	4.7	3.6	262.5
Developed Pervious-D-High	0.0	0.0	4.0	4.5	39.6	29.6	10.2	4.1	3.0	1.3	96.4
Open Space	1.5	38.9	422.0	190.1	132.2	358.8	218.2	42.9	285.8	0.0	1,690.5
Commercial	440.7	1,262.0	300.7	107.0	68.4	41.7	20.7	0.0	574.4	0.0	2,815.6
Industrial	0.0	548.4	19.8	184.2	0.0	0.0	0.0	0.0	0.0	0.0	752.3
Low Density Residential	0.0	9.6	850.5	1,416.8	373.9	1,792.7	722.9	0.0	11.7	1.5	5,179.7
Medium Density Residential	23.8	31.4	4,029.0	49.7	891.1	106.1	0.0	0.0	24.5	0.0	5,155.5
High Density Residential	5.9	17.1	71.9	108.1	24.4	214.4	0.0	0.0	28.3	0.0	470.1
Highway	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	88.7	0.0	89.2
Total	489.6	2,037.3	6,406.4	2,692.3	2,078.4	5,841.5	4,476.6	70.9	1,095.1	14.9	25,203.0

Table D-3. Distribution of annual average total nitrogen load by HRU and zoning district (lbs/year). Darker shades represent higher values within each column.

HRU Categories	Annual Average Total Nitrogen Load by Zoning District (pounds/year)										All Zoning
	B1	B2	R10	R20	R25	R50	R3A	LHP	W/C	NZ	
Agriculture Pervious-A-Low	0.0	0.0	0.7	0.0	0.2	6.4	25.1	0.0	0.0	0.0	32.5
Agriculture Pervious-A-Med	0.0	0.0	0.4	0.0	0.7	22.3	61.3	0.0	0.0	0.1	84.7
Agriculture Pervious-A-High	0.0	0.0	0.0	0.0	0.1	6.2	18.5	0.0	0.0	0.0	24.8
Agriculture Pervious-B-Low	0.0	0.0	0.0	0.0	0.0	0.0	60.6	0.0	0.0	0.0	60.7
Agriculture Pervious-B-Med	0.0	0.0	0.0	0.0	0.0	0.1	26.1	0.0	0.0	0.1	26.3
Agriculture Pervious-B-High	0.0	0.0	0.0	0.0	0.0	0.1	3.8	0.0	0.0	0.0	4.0
Agriculture Impervious	0.0	0.0	0.0	0.0	1.2	20.9	68.8	0.0	0.0	0.1	91.1
Forest Pervious-A-Low	0.0	1.1	5.7	5.2	12.7	38.5	37.1	0.0	0.0	0.0	100.4
Forest Pervious-A-Med	0.1	4.3	21.1	16.8	21.4	115.9	113.3	0.0	0.0	0.1	293.0
Forest Pervious-A-High	0.1	3.4	13.0	15.0	3.3	51.0	55.0	0.0	0.1	0.1	140.9
Forest Pervious-B-Low	0.0	0.5	0.4	0.0	0.0	6.7	76.1	0.0	0.0	0.1	83.8
Forest Pervious-B-Med	0.0	1.1	0.9	0.1	0.0	7.2	62.1	0.0	0.0	0.1	71.5
Forest Pervious-B-High	0.0	0.1	0.3	0.1	0.0	1.8	14.7	0.0	0.0	0.0	17.1
Forest Impervious	0.6	22.8	107.8	128.2	78.6	581.4	456.4	0.0	3.1	0.1	1,379.0
Developed Pervious-A-Low	0.1	1.8	16.7	5.1	7.9	13.9	4.3	0.0	0.0	0.0	49.9
Developed Pervious-A-Med	0.3	3.1	36.4	13.5	13.6	26.2	10.5	0.0	0.1	0.0	103.7
Developed Pervious-A-High	0.2	3.2	14.0	8.2	4.2	9.8	5.5	0.0	0.1	0.0	45.3
Developed Pervious-B-Low	0.0	0.1	0.2	0.0	0.0	1.8	21.1	0.0	0.0	0.0	23.2
Developed Pervious-B-Med	0.0	0.1	0.1	0.0	0.0	1.8	22.6	0.0	0.0	0.0	24.7
Developed Pervious-B-High	0.0	0.1	0.0	0.0	0.0	0.2	4.4	0.0	0.0	0.0	4.8
Developed Pervious-C-Low	3.0	0.0	11.7	0.0	0.4	0.0	0.0	1.5	15.1	0.0	31.8
Developed Pervious-C-Med	2.7	0.0	1.2	0.0	0.6	0.0	0.0	2.4	9.5	0.0	16.4
Developed Pervious-C-High	1.0	0.0	0.2	0.0	0.1	0.0	0.0	1.4	2.5	0.0	5.2
Developed Pervious-D-Low	0.0	0.0	8.1	1.7	6.3	85.2	40.8	2.3	2.4	2.4	149.2
Developed Pervious-D-Med	0.0	0.0	7.6	2.6	29.6	42.1	19.1	2.9	1.9	1.5	107.4
Developed Pervious-D-High	0.0	0.0	1.6	1.9	16.2	12.1	4.2	1.7	1.2	0.5	39.5
Open Space	0.4	11.0	119.7	54.0	37.5	101.8	61.9	12.2	81.1	0.0	479.7
Commercial	166.6	477.1	113.7	40.4	25.9	15.8	7.8	0.0	217.2	0.0	1,064.5
Industrial	0.0	207.3	7.5	69.6	0.0	0.0	0.0	0.0	0.0	0.0	284.4
Low Density Residential	0.0	3.4	300.6	500.8	132.2	633.6	255.5	0.0	4.1	0.5	1,830.7
Medium Density Residential	8.4	11.1	1,424.0	17.5	315.0	37.5	0.0	0.0	8.6	0.0	1,822.2
High Density Residential	2.1	6.0	25.4	38.2	8.6	75.8	0.0	0.0	10.0	0.0	166.2
Highway	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	22.6	0.0	22.7
Total	185.7	757.7	2,239.2	919.0	716.6	1,916.3	1,537.0	24.4	379.7	5.8	8,681.3